Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

**Sample Space and Tree Diagrams – Practice Problems**

1. Kimberly has three pair of pants: one black, one red, and one tan. She also has four shirts: one pink, one white, one yellow, and one green. Draw a tree diagram or list the sample space showing all possible outfits that she could wear, if an outfit consists of one pair of pants and one shirt. How many different outfits can Kimberly wear?

2. Samuel is buying a new car. He wants either a convertible or a hatchback. Both types of cars are available in red, white, or blue and with automatic or standard transmission. Draw a tree diagram or list a sample space of all possible choices of cars that are available.

3. A restaurant sells kids’ meals consisting of one main course, one side dish, and one drink, as shown in the table below.

Kids’ Meal Choices

|  |  |  |
| --- | --- | --- |
| **Main Course** | **Side Dish** | **Drink** |
| Hamburger | French Fries | Milk |
| Chicken Nuggets | Applesauce | Juice |
| Turkey Sandwich |  | Soda |

Draw a tree diagram or list the sample space showing all possible kids’ meals. How many different kids’ meals can a person order?

José does not drink juice. Determine the number of different kids’ meals that do not include juice.

José’s sister will eat only chicken nuggets for her main course. Determine the number of different kids’ meals that include chicken nuggets.

4. The Grimaldis have three children born in different years. Draw a tree diagram or list a sample space to show all the possible arrangements of boy and girl children in the Grimaldi family.

5. If Laquisha can enter school by any one of three doors and the school has two staircases to the second floor, in how many different ways can Laquisha reach a room on the second floor? Justify your answer by drawing a tree diagram or listing a sample space.